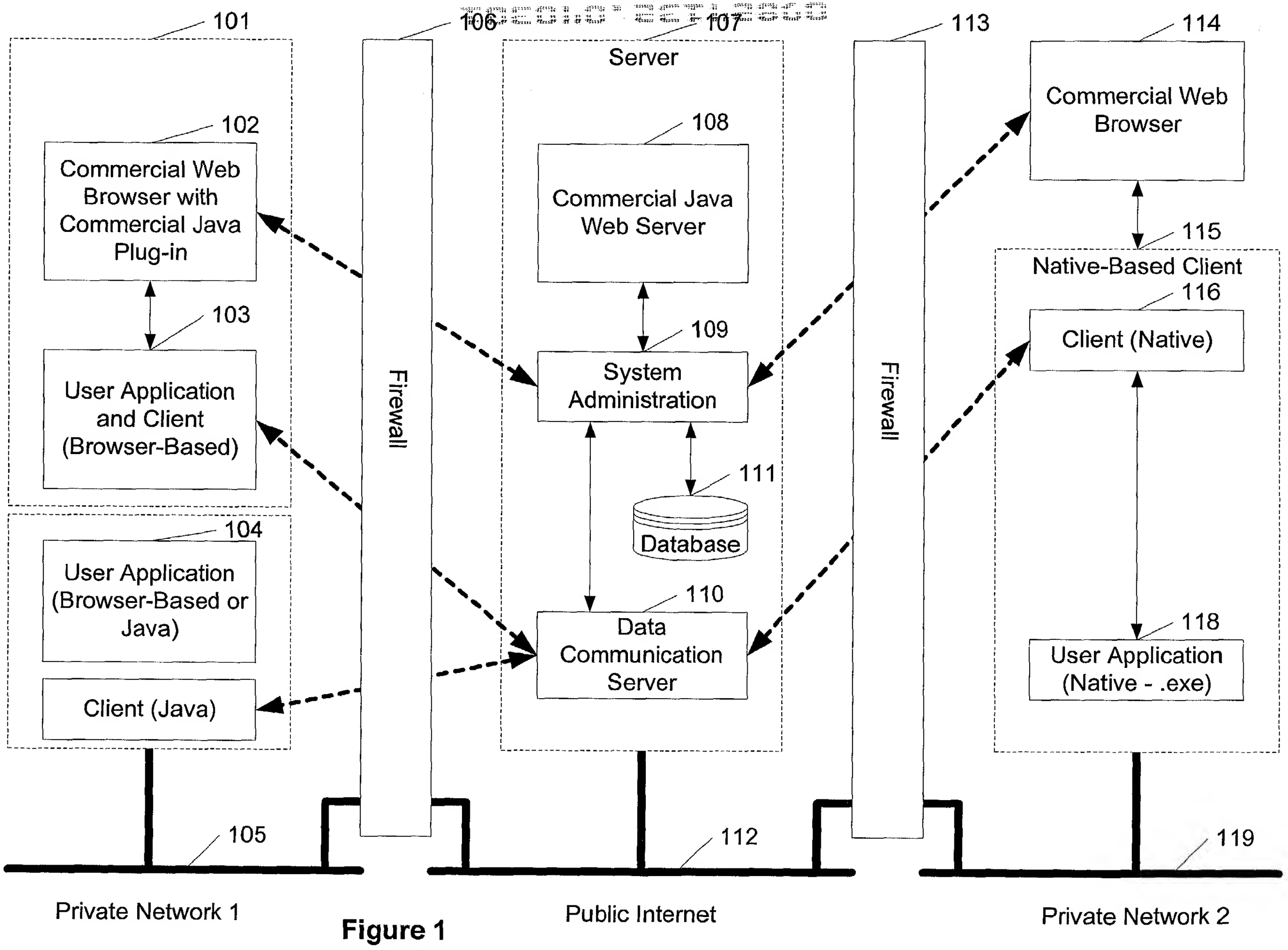

101
102
Commercial Web Browser with Commercial Java Plug-in
103
User Application and Client (Browser-Based)
104
User Application (Browser-Based or Java)
Client (Java)
105
Private Network 1
106
Firewall
107
Server
108
Commercial Java Web Server
109
System Administration
111
Database
110
Data Communication Server
112
Public Internet
113
Firewall
114
Commercial Web Browser
115
Native-Based Client
116
Client (Native)
118
User Application (Native - .exe)
119
Private Network 2

Figure 1

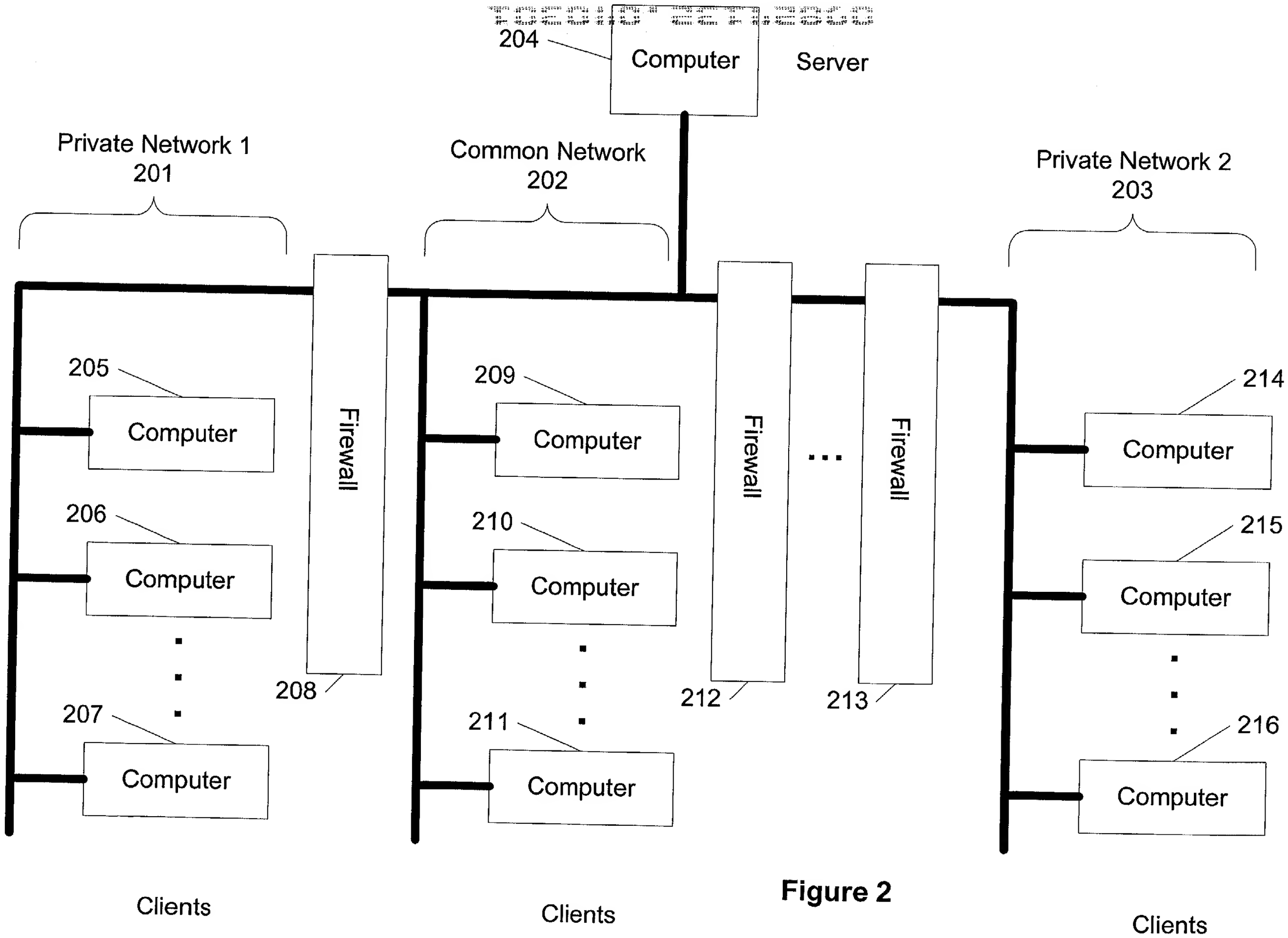
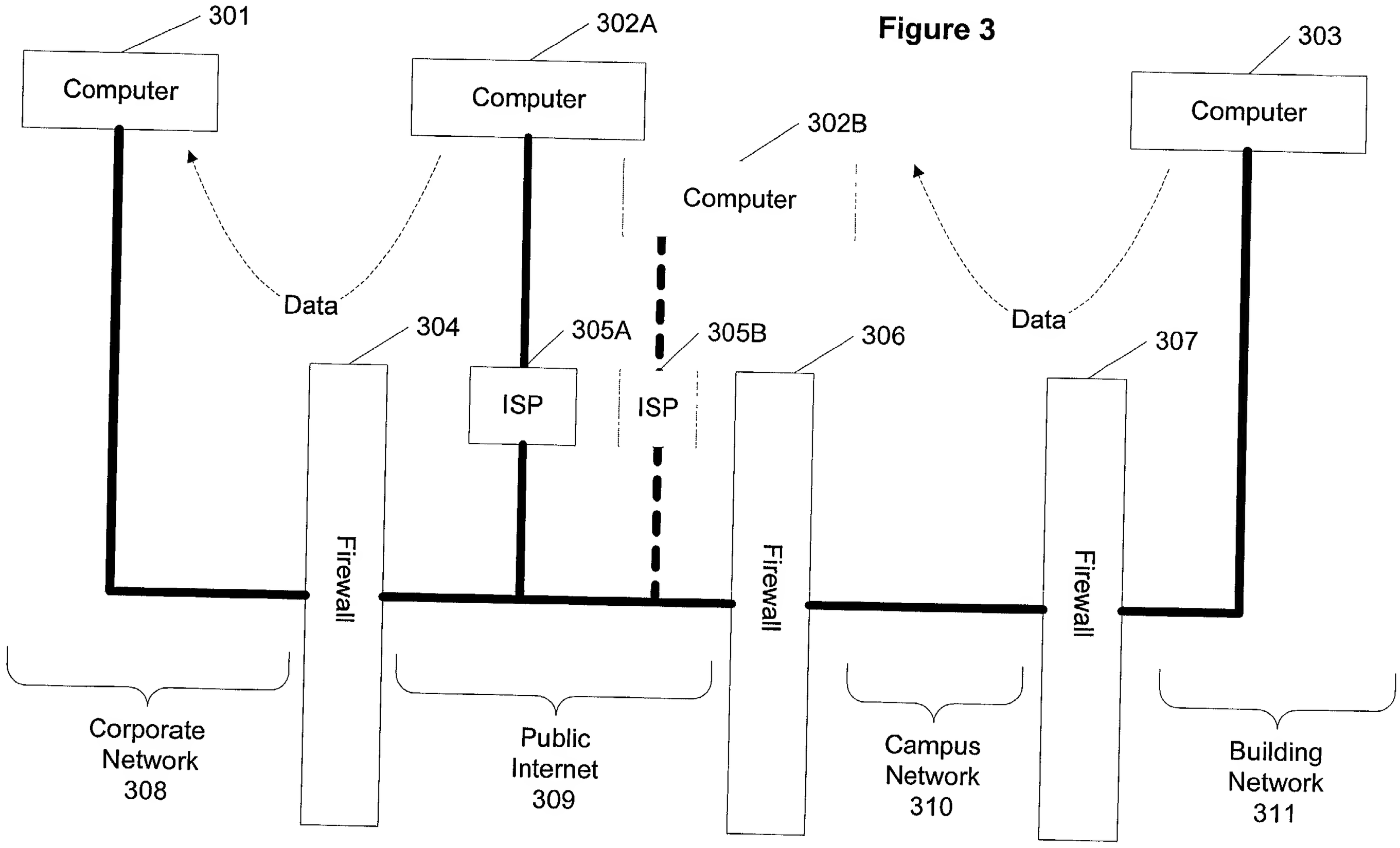

204
Computer
Server
Private Network 1
201
Common Network
202
Private Network 2
203
205
Computer
206
Computer
207
Computer
208
Firewall
209
Computer
210
Computer
211
Computer
212
Firewall
213
Firewall
214
Computer
215
Computer
216
Computer
Clients
Clients
Clients

Figure 2

Figure 3


301
Computer
302A
Computer
302B
Computer
303
Computer
Data
Data
304
305A
305B
306
307
ISP
ISP
Firewall
Firewall
Firewall
Corporate Network 308
Public Internet 309
Campus Network 310
Building Network 311

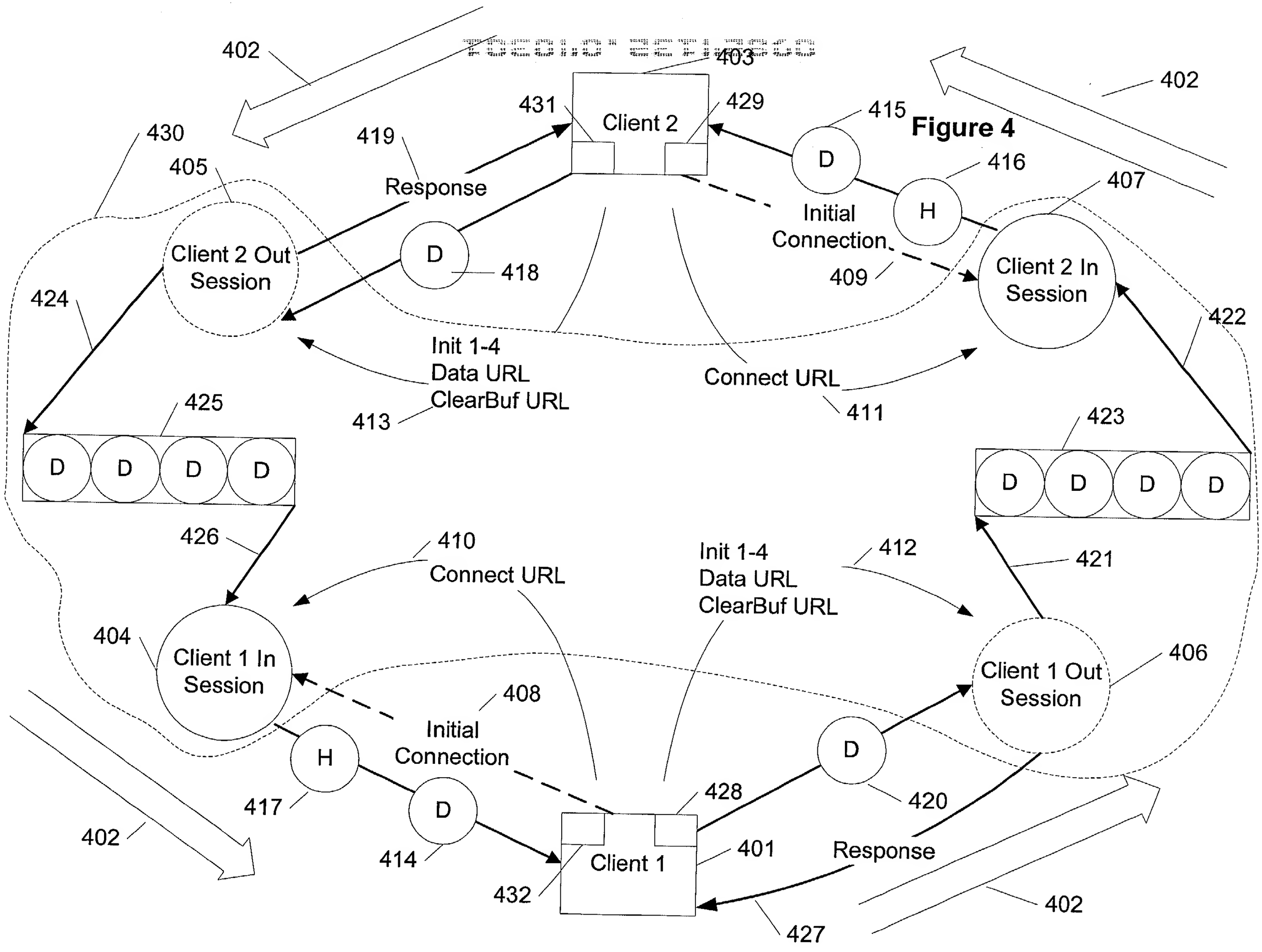

402
403
431
Client 2
429
415
Figure 4
430
419
Response
405
D
416
407
Initial
Connection
H
Client 2 Out
Session
D
418
Client 2 In
Session
424
409
422
Init 1-4
Data URL
ClearBuf URL
Connect URL
413
411
425
423
D
D
D
D
D
D
D
D
426
410
Connect URL
Init 1-4
Data URL
ClearBuf URL
412
421
404
Client 1 In
Session
406
Client 1 Out
Session
408
Initial
Connection
H
D
D
417
428
420
402
414
401
Client 1
Response
432
427
402

Figure 5A

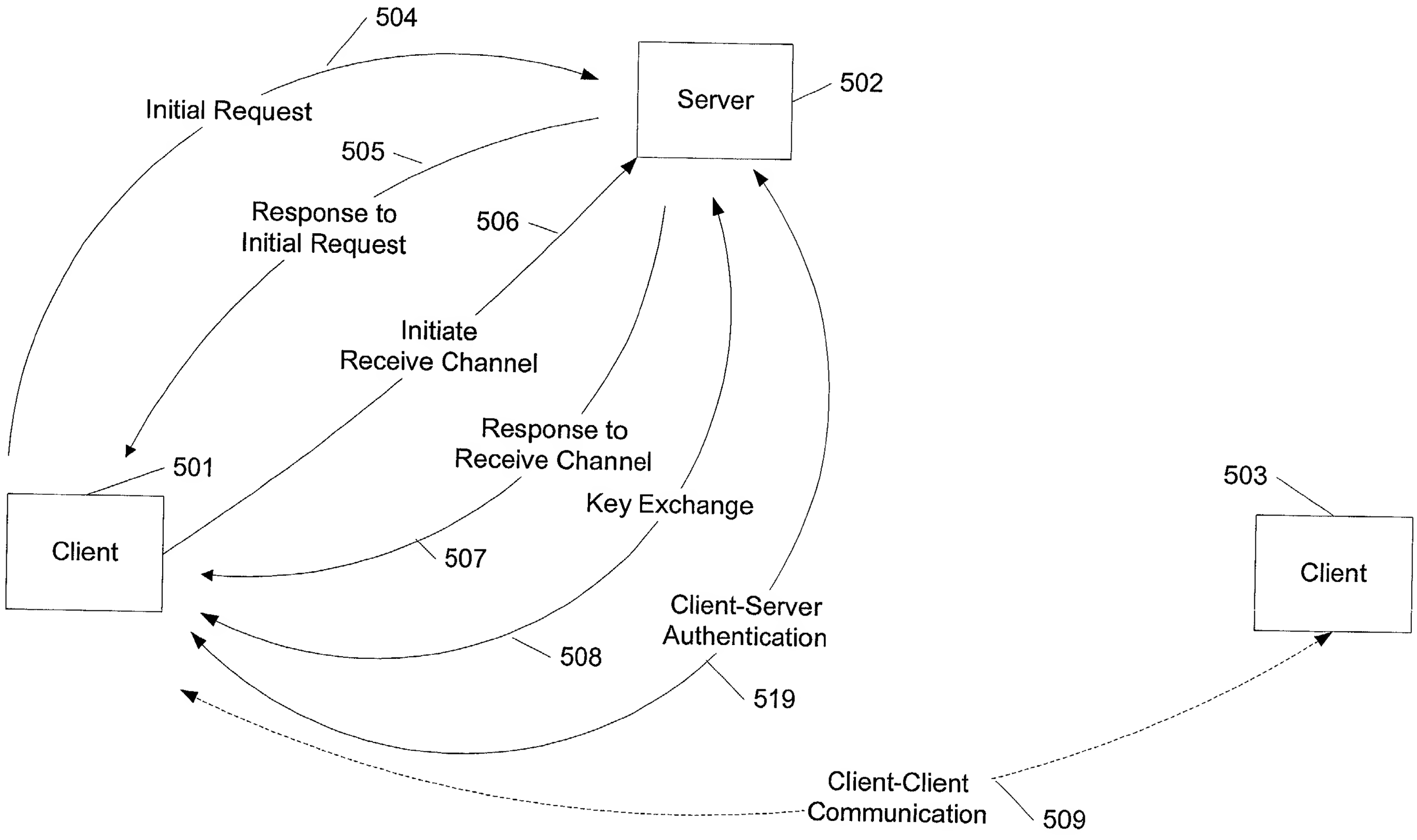

504
Initial Request
Server
502
505
Response to
Initial Request
506
Initiate
Receive Channel
Response to
Receive Channel
501
503
Client
Key Exchange
507
Client
Client-Server
Authentication
508
519
Client-Client
Communication
509

Figure 5B

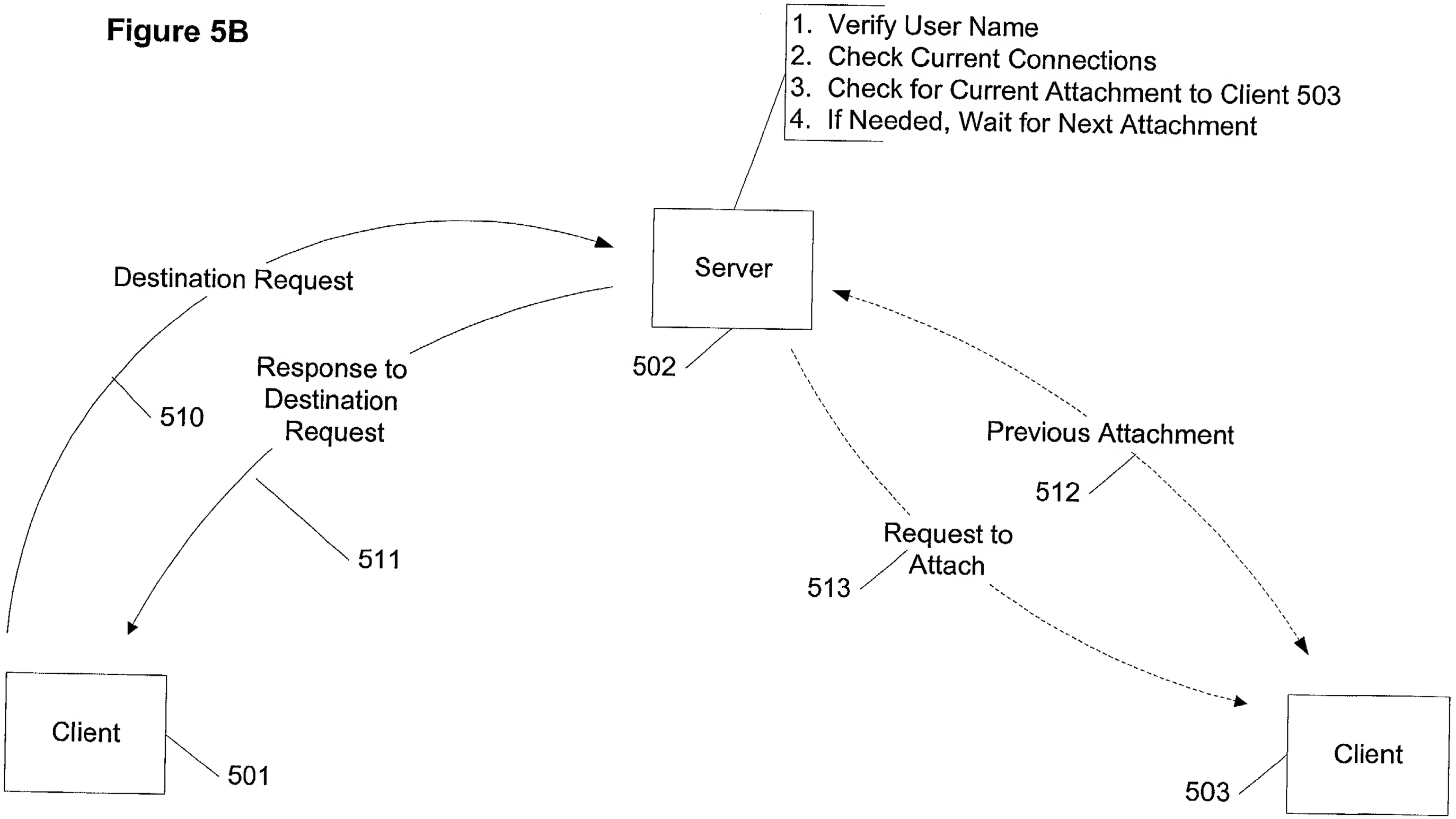
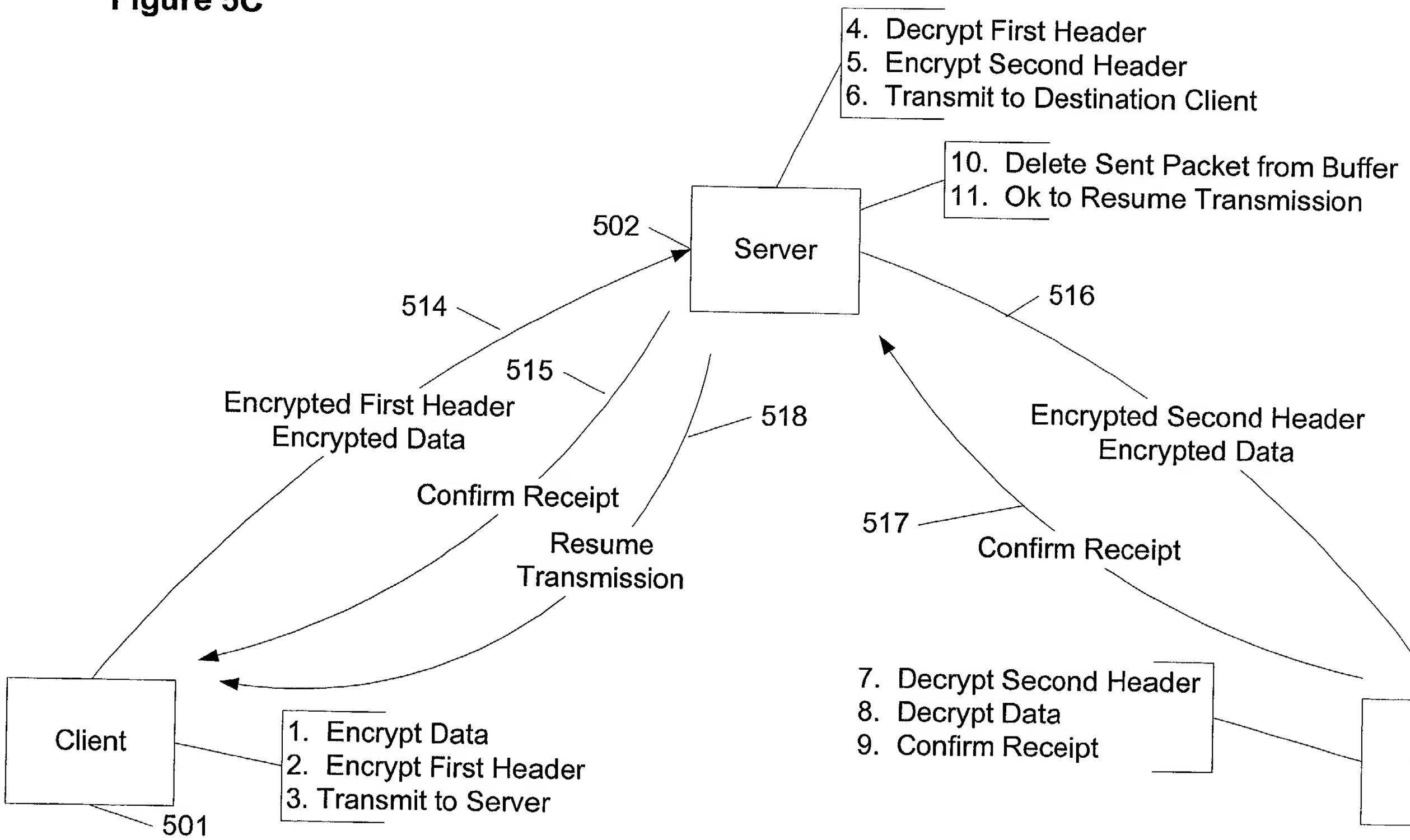

1. Verify User Name
2. Check Current Connections
3. Check for Current Attachment to Client 503
4. If Needed, Wait for Next Attachment
Server
502
Destination Request
510
Response to Destination Request
511
Client
501
Previous Attachment
512
Request to Attach
513
Client
503

Figure 5C


4. Decrypt First Header
5. Encrypt Second Header
6. Transmit to Destination Client
10. Delete Sent Packet from Buffer
11. Ok to Resume Transmission
502
Server
514
516
515
518
Encrypted First Header
Encrypted Data
Encrypted Second Header
Encrypted Data
Confirm Receipt
517
Confirm Receipt
Resume
Transmission
503
7. Decrypt Second Header
8. Decrypt Data
9. Confirm Receipt
Client
1. Encrypt Data
2. Encrypt First Header
3. Transmit to Server
Client
501